



CALIFORNIA GARDEN

IN THIS NUMBER

ASSOCIATION VISITS DORLAND AND KAHN
GARDENS

THE WEB OF LIFE
OCTOBER GARDENS

OCTOBER, 1927

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No. 4

Floral Association Visits Dorland and Kahn Gardens

The monthly August outdoor meeting of the San Diego Floral Association met at the garden of Mr. and Mrs. W. S. Dorland, 3100 Brant Street. The approach is unique in the fact that Brant Street terminates in a circular end with a small lawn in the center; as Brant Street has been closed to the south and the garden begins, as it were, in that portion of Brant Street. Such a wise act by the city adds beauty when formerly it was only a rocky and barren waste. There are other similar opportunities in the city that should be likewise reclaimed.

Mrs. Dorland has developed the rough hill-sides to the east and south with strong walls, and made terraces where Italian cypress are well arranged with bougainvillea covering the ground. On the lawn proper about the house many old and tall Cocos Plumosa palms make an attractive group. Low growing Junipers in variety about the entrance steps were well placed and will be a very fine feature in another two years. Conspicuous and individual plants well worth duplicating were, the climbing syringa in full bloom, a collection of Agaves of which A. Ferox was a very fine specimen—probably the best in the city. Fourcroyas of two sorts were well placed beneath tall palms on the hill slopes.

Upon the front terrace, Mrs. Dorland has begonias of the rubra type growing in pots, so tall that she has trained them on wires and strings over the ceiling of the porch and has done what no one else has ever thought of doing. Marjorie Daw is one of the climbing begonias, but here were Begonia Rubra type ten to fifteen feet long on the ceiling. A cosy summer house on the hillside looks into a rustic pool beneath a red hard pan wall, the banks are draped with vines and rock plants.

From this interesting and well cared-for garden across on Curlew Street we visited another hillside garden, that of Mr. and Mrs. H. S. Kahn, 3170 Curlew. This is indeed a unique garden, one-half of the entire block is a strip of hillside ending in a deep canyon and a gentle level slope to the south. The house is in the extreme northeast corner of the block with a small lawn in the front and from the two upper floors you look down upon the tree and shrub tops and over them to the bay and ocean.

The steep hillside has been laid up with several cobble stone walls and good paths; this makes a narrow terrace for planting. The bottom of the canyon is set to bananas, palms,

bamboos and tropical looking plants watered by a large, tall whirling sprinkler. So there is a very luxurious growth everywhere in the canyon. The steep hillside is a mass of foliage and proves what rough soil and water will produce. On the more level land many large citrus and avocado trees and other fruits are in fine growth and one terrace is filled with roses. Many paths lead over the grounds among trees, shrubs and vines of luxurious growth. A very charming pergola summer house stands at the north end of the deep canyon, and here refreshments were enjoyed after the long stroll through the garden. A very unique aviary adjoins this resting place and birds of many sorts and of many members, a very interesting attraction for its location. The many terraces, rock walls and flights of cement steps signify much work and expense, but the rough hillside and canyon have been made into a place of beauty and these hillside gardens have a charm that a level garden can never produce. Besides the opportunity for growing many sorts of plants in various locations is available and this hillside garden was as secluded as a high walled-in garden on the level and proved it was a garden that was lived in.

K. O. SESSIONS.

MACADAMIA TERNIFOLIA

The Queensland Nut is a native of New South Wales and is a very promising tree for San Diego on the streets. It is hardy, stands considerable drought and is evergreen, has leaves one inch wide and four to six inches long, but rather stiff and harsh with a serrate edge. The flowers are borne in a drooping spike of many tiny pale pink lily-like blossoms. A few of these only bear seed and which when ripe from one to four or five nuts may be seen hanging pendant like big green marbles on a string. The seed is delicious like an improved filbert or modified Brazil nut. The color is a soft brown and its only fault is the extreme hardness of the shell; it is a trick to crack one.

In Mr. Thomas Hamilton's garden at La Playa a fine specimen was full of green fruit on Oct. 1, and at Mr. A. D. Robinson's on Point Loma a smaller tree has borne fruit for three seasons. At Mr. R. N. Martin's hilltop home at Vista a small tree is bearing fruit for the first time. There are several tall, slender trees in Balboa Park—North of the Rose Garden—but they are crowded by heavy

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planting and do not have a fair chance. At Honolulu this nut is being grown commercially and there has been received here lately 5 pounds for propagation. The trees are scarce as yet but so good a tree will soon become abundant. It is a tree that will require very little staking and pruning. It flourishes in well drained soil and probably the streets of Pacific Beach offer the best location for its successful and rapid growth.

If there are any other trees in the city or county that you know of please let it be known, for the trees, whether they are flourishing or not give us valuable information concerning their success and age. Send the memorandum to K. O. Sessions, 4016 Randolph Street, San Diego.

TULIP PICTURE

The House Committee announce the receipt of a charming picture depicting the various varieties of Holland tulips. Each of the twelve varieties is named. The picture is a gift from Mr. Valle, Vice Consul from the Netherlands, and is now hanging on the walls of the Floral Association Building in the Park. We know that it will always be a source of pleasure to you on your visits to the building.

The Association has indeed been most fortunate at all times in the matter of gifts for the Floral home. Sometime later we are going to prepare a list of these gifts for the benefit of the Garden readers.

CONIFERS FOR SAN DIEGO

By John G. Morley.

(Continued)

Cupressus, commonly called Cypress, are among the finest of our conifers and comprise a family of about twenty varieties, natives chiefly of the Northern Hemisphere, some of which are very hardy, while others, natives of California and Southern Europe, will thrive only in the more temperate climates.

The variety with which we are the most familiar is Cupressus Macrocarpa, or Monterey Cypress. This variety serves many purposes; it is often used in topiary gardening,—is one of the most useful of all the hedges grown in California,—may be grown as a shrub if kept sheared twice each year; as an ornamental tree, planted away from the sea coast, it is one of the finest and most symmetrical of all the conifers,—its rapid growth for the first few years gives a quick effect to the landscape whenever utilized. Where ample space is allowed for its full development, which is generally attained in twenty-five years, the matured tree has a symmetry and character unsurpassed by very few others in the family of conifers. In its native habitat at Monterey along the California Coast, it is very beautiful,—the continuous ocean breezes that prevail tend to entirely change its habit of growth than when planted further inland,—it has a rugged appearance and the branches on the landward side stretch out laterally away from the sea breezes, causing it to seem unbalanced, but nevertheless producing a beautiful and picturesque effect, the same conditions prevailing wherever it is planted along the coast.

Cupressus Guadalupeensis is a native of the Guadalupe Islands, off the coast of Lower California. It is a beautiful tree with a bluish green foliage and a brownish gray bark,—grows to a height of forty feet or more and in general habit of growth resembles the Monterey Cypress. The distinctive color of the foliage and bark gives it a very picturesque character and when planted either singly or in groups, produces a beautiful effect in the landscape.

Cupressus Goveniana and C. MacNabiana are two other California varieties well worthy of planting,—they do not grow as large as the preceding varieties and may be used where a smaller tree is desired.

Cupressus Arizona is a native of Arizona as the name implies. It is one of the most drouth-resistant trees we use,—grows in its native habitat to seventy feet high, very slender and symmetrical. It is very glaucous and has been very extensively planted in Southern California on large estates and in parks for its general utility and drouth-resistant character.

Cupressus Funerbris (funeral cypress),—a native of the northeast of China,—the branches are pendulous at their extremities,

producing a graceful and weeping appearance. This variety was planted extensively in California thirty years ago and is still very popular as one of the best of the Cupressus for planting in Southern California.

Cupressus Lusitanica is a Portuguese variety and half-hardy,—useful only to plant in the temperate zone,—the foliage is glaucous, the branches incurved, which is characteristic of this small tree. It is being planted in increasing quantities in Southern California each year.

Cupressus Semprevirens (Italian Cypress),—from Southern Europe, a very popular variety of columnar habit, utilized very extensively in California, especially in the south, as it seems to fit in so admirably with the architecture and landscape design of the residences and gardens of this section of the state. It is useful in groups, aligning avenues and for single specimens. There are several types of this interesting tree, the finest of which are grafted on others to keep a narrow columnar habit, while those grown from seed produce many interesting types and varieties to suit any purpose.

CHRYSANTHEMUMS

Everyone should be preparing their Chrysanthemums for the Fall Show. Some say they are "too much bother." What is there in life worth striving for, or having, without some time, labor and expense? Others say I want flowers that will take care of themselves. If such a thing existed it would be so expensive very few could have it. After all we get (to a large extent) results according to the care given. Granted one must have good stock to begin with, as it would be impossible to get fine, large flowers from inferior parents. But to get down to what we should be doing with the plants at this time. All should be thoroughly tied to stakes or wires to prevent damage from wind or rain. All disbudding finished, covers put over beds when blooms first show color.

Liquid fertilizer applied twice a week with a watering of clear water between times, then be sure all plants for next year's stock are carefully labeled when in full bloom, so there will be no mistake as to color and kind.

The pompoms need no special attention except to be properly supported and I never fertilize them. The tarnished plant bug is a pest and very destructive if allowed to get on tips of plants. They are a brown bug with a hard shell, very similar to the potato bug. The only method of extermination found satisfactory and to free plants of them is by hand picking.

It is the plan of the committee of the coming show to have a chrysanthemum specialist attend and give some valuable information about the growing of mums. Everyone interested should plan to be at this meeting.

CHRYSTAL STRAHLMANN.

THE MARIPOSA LILIES

Mariposa lilies of California are striking and beautiful, with their wide range of form, color, and habit. These plants, belonging to the genus *Calochortus*, are called Mariposa Lilies, because of the resemblance of some of the species to butterflies. The word Mariposa is Spanish, and means "butterfly." Many of the species have the petals of a delicate color, with a large, brilliantly-colored spot resembling the wing of a butterfly. The bulb is rather small, averaging one-half to three-fourths of an inch in diameter. The bulblets, very small, scarcely more than an eighth of an inch in diameter, are borne at the base of the stem, either singly or in groups up to four. Unlike many other bulbous plants, the bulblets are not formed as offshoots of the parent bulb, but are borne at the base of the stem. Not all species of *Calochortus* produce bulblets. The flowers are borne on the end of the stalk, which is either simple or branched, depending on the species. They are arranged either singly or in groups of two or three. There are three types of flowers found in the genus *Calochortus*—the Mariposa Lily, the Star Tulips, and the Globe Tulips. The members of this genus are distributed throughout California, being found in the coast ranges, which parallel the length of California along the coast, in the Sierra Nevada Mountains, and in the great valley lying between the two ranges. The Mariposa Lily, or Butterfly Tulip, as it is called, bears a cupshaped flower on a slender stem. The petals are three in number, reflexed, so that they give the appearance of being bent back when fully expanded. They are found in yellow, white, and lilac, each species having distinctive markings. The leaves are long, narrow, and dark green, up to about a foot in length, and are recumbent from their weight when fully grown. The flower-stalk is straight and has a striking appearance when a mass of the flowers is in bloom. Perhaps the best of the genus is:

Calochortus Vesta. The color is white, flushed with lilac or rosy-purple, red at the center and purple on the backs of the petals. The flowers are 3 inches to 5 inches across, borne on long stalks, separately, and making an excellent cut flower, as they will last for several days when placed in water immediately after cutting.

Calochortus venustus resembles *C. Vesta*, but is not so large, the flowers reaching their maximum size in a diameter of 2 inches. The stems are short, being from 4 inches to 10 inches long, and branched, there being several flowers to a plant, each one being borne separately. The color of this species is white, with pencillings of rose, and a rose-colored blotch at the base of each petal. This species is found in open fields of a sandy or alkaline character throughout the coast ranges and extending through the central valley of California into the Sierra Nevada Mountains.

C. splendens, the true Mariposa Lily, is a beautiful flower. The predominating color is a clear lilac, with whitish hairs toward the base of the petals. The flower is rather large, with stems 1 foot to 1½ feet high. This species makes an excellent flower for cutting, and is often used as such where it is abundant. Its range extends through the coast ranges of Central California. The yellow Mariposa Lily,

C. luteus, closely resembles the white Mariposa Lily, *C. venustus*, in habit and general distribution, often being found associated with it in the coast range foothills. It does not penetrate into the Sierras. This species is yellow, with central blotch lacking, its place being taken by finely-pencilled lines. Other species of this type, showing different habit and distribution, are:

C. uniflorus, a rather low (4-inch to 8-inch) plant with a lilac flower borne on the end of the stalk. It is found in wet meadows.

C. oculus is of a creamy color, with a large, widely-zoned eye, with a very large flower.

C. citrinus differs from the preceding in color, being yellow, and is different from the other yellow, *C. luteus*, in possessing an eye in each petal, the eye being almost black. The Star Tulips are small, very delicate, woodland plants having simple or branched stems, and leaves up to a foot or more in length, being longer than the flower-stalk. These are all similar in shape, but have a wide range of color.

Pussy's Ears (*C. Maweanus*) is a delicate plant, from 3 inches to 5 inches high, and bearing several blooms at the end of the flower-stalk. The flowers are white, covered on the upper surface with long silken hairs, so that the general appearance is that of the inside of a kitten's ear, hence the common name. Other species of this type are *C. Benthami* (bright yellow) and *C. lilacinus* (lilac), which resemble the Pussy's Ear very much except in color. The third group is popularly known as Globe Tulips, and is well represented by *Calochortus albus*, known as the Fairy Lantern or White Globe Tulip. The flowers are greenish-white, each about an inch in diameter, with the petals incurved, giving the appearance of a globe. The flowers are pendent from branching stems, from 1 foot to 1½ feet high. This is a truly beautiful species, found in shady woods of the coast range of California. Closely resembling *C. albus* is *C. amabilis*, the color of which is golden-yellow. It, too, is a native of shady woods.

The few species mentioned above do not make up the entire genus as found in California, but they will serve to give an idea of the different types, colors, and conditions under which they are found. These species are all worthy of cultivation, and are found

in a few gardens in California, and are offered by a few florists for sale, both in California and in other States. Perhaps the largest use of the members of this genus have under cultivation is for naturalizing. A few bulbs of any of the above species, if placed in a shady, well-protected corner of the garden will do well and produce beautiful blooms under California conditions, and I can see no reason why the same should not hold good for eastern gardens. Care would have to be taken to protect them from frost in the East if they were used for naturalizing. When planted in pots good results have been obtained, the plants producing fine flowers which were beautiful in addition to being rather a curiosity.—Paul R. Hichborn in *The Flower Grower*.

WILD FLOWER CONSERVATION

By K. O. Sessions.

The Leslie Rowntree Co., of Carmel, Calif., are collectors of California Wild Flower Seeds and they have the courage and honor and to print in their circulars that they will not dig the native bulbs for sale.

While many are working for the protection of California Wild Flowers, a few are making a business of digging and selling the wild bulbs of California from Oregon to Mexico, and how long will it be before the supply is exhausted. These California bulbs should be grown from seed and cultivated bulbs sold and the movement in that direction would in a few years become a profitable business, if the laws of this state would prohibit the digging of bulbs.

In the Sierras and about Yosemite the laws are rigidly enforced regarding the picking of the beautiful show plant and our *Yucca Whipplei* is also now protected in this county. The *Calochortis* or Mariposa lilies of California are considered rare treasures by all horticulturists of the world and they are practically not found elsewhere. The large flowering white and yellow true type of lilies of California are found only in the mountainous regions so they are very limited in distribution, and it is very necessary that they be grown from seeds and not dug from the field if they are to exist wild.

The California Christmas Berry, *Heteromeles arbutifolia*, is protected by law, because it has a commercial value, and one cannot pick it upon another's property without permission.

The beautiful Hartford fern *Lygodium scandens* of Connecticut and Massachusetts was likewise protected because of its commercial value forty years ago, but now it is a very rare plant.

Mr. Henry Correvon of Geneva, Switzerland is president of the International Society of the Continent to prevent the destruction of the native plants and flowers.

The Oct. and Nov. Gardens

OCTOBER FLOWERS

By Ada Perry.
(In San Diego Union)

October's significance to flowers is expressed tersely by the remark of a nurseryman, "It's the easiest time to get that hard stuff up."

A list of the seeds that are a test of skill to germinate is sufficient material for an old-fashioned garden and now is the best time to start it.

Columbine, Canterbury bells, Delphinium, salvia and verbenas are the most particular members of the old-fashioned garden. What they really want is ground sowing instead of flat sowing. The slanting sun rays, spring like temperature and possible rainfall of the San Diego October all favor ground sowing.

* * *

Prepare your open seed bed where wind will not strike it nor water stand on it. A level, firmly held little terrace of loam soil is model for this work. Use a good amount of peat humus or leaf mould for the surface of the bed. Make the drills with a narrow board and strew the seeds. Cover them with sand or sand and soil. A removable canopy of burlap over the bed is a wise provision. There will be some decidedly warm days in every winter season here. The bed is kept at a uniform growing dampness by using a fine spray or sprinkler during the latter part of the day.

* * *

When planting Canterbury bells get some of the all pink seed. It develops exquisite blooms. The mixed seed yields mostly handsome blues which are the strongest germinators. Blue columbines are uncommonly pretty as the flower is large and of a very good shade. The long spurred hybrids are the finest mixture. Columbines are shade-loving flowers. One of the chief charms of Mission Cliff Gardens are Columbines permanently established under the trees and blooming beautifully every spring.

* * *

Delphiniums seem to be the desire of every woman and the despair of many trying to grow them. They are perennials but the roots do not seem to "wear" as well here as they do in colder climates. If the requirements of the plants are met here, this fact is not a drawback. With a little skill one may plant as many as desired and have the magnificent blue flowers in the living room in a surpris-

(Continued on page 13)

THE GARDEN

By Walter Birch.

Talking of Early Blooming Winter Sweet Peas, the anxiety of many amateur gardeners to have blooms ready for cutting at the earliest possible moment causes them to plant their seed in July, August and September, with more or less success. Professional growers do likewise because they must have blooms for the market both early and late but for their main crop of blooms they plant during October, November and December. At this time of year when the ground is getting cooler as well as the weather, sweet peas will grow better than during the hotter weather and you will not be so likely to be bothered by root aphids and other pests which are more in evidence when the weather is warmer. You will also get an easier and more uniform growth of vine and from seed planted in October your peas should be in bloom in January and so on for subsequent plantings until well into summer.

Yellow Calla bulbs are now available for planting and are very much worth while. The blossom is large and a deep golden yellow, the leaves are spotted white and the plants are suitable for outdoor bedding or pot culture.

Daffodils, Tulips and Hyacinths are now also in season, the narcissi or daffodils are amongst the most popular and easiest grown of our bulbous flowers. They are much used as cut flowers because of their splendid keeping qualities and fragrance. They may be grown in beds or borders or planted with the shrubbery and allowed to naturalize and while they prefer partial shade they will grow in full sun. Like other bulbs they like a good, easily worked garden soil. Plant about five inches deep. Some of the most popular varieties are Emperor, golden yellow flowers of immense size, King Alfred, one of the largest and longest stemmed, color pure yellow, Sir Watkin and Double Von Sion.

The Darwin type of Tulip is possibly the most popular grown here. It is long stemmed and bright colored. Do not use barnyard manure except it is done several months in advance of planting. Use bone meal either well mixed in the soil around the bulb or a little below the bulb. There are many beautiful shades of color in tulips. Pinks, yellows, rose, scarlet, black, crimson, heliotrope, etc.

Hyacinths should be planted in a protected location and they will do better with some

(Continued on page 8)

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QUESTIONS AND ANSWERS

Q. Has the aster plant a special attraction for the red ant? This pest seems to love to live around the roots of the aster, ruining the plants which can produce nothing but inferior stems and blossoms. This is the third year they are doing it for us, even though I changed the location. How can ants be dislodged from around the roots of any plant without killing the plant? Cold water will not do it; am afraid to use boiling. Mrs. E. T.

A. Ants are frequently found around the roots of asters and similar plants, but not because these plants have any special attraction for them. As a matter of fact they are there because the roots are infested with aphids or plant lice and these insects secrete a sweet, sticky liquid called honey-dew, of which ants are particularly fond. If it were not for the aphids on the roots the ants would not be there. They do considerable direct injury to the plants, however, by opening up the soil around the plant roots, causing the latter to dry out. The feeding of the aphids on the roots is what causes the plants to become stunted and worthless.

The problem is to get rid of the aphids. This is a difficult thing to do without injuring the plant roots. About the only material you can use with any assurance of success is a strong tobacco solution. Either use a half and ounce of black leaf 40 (a concentrated tobacco extract) mixed with two and one-half

gallons of soapy water, or soak tobacco stems or leaves in hot water over night, adding the liquid to a gallon or so of soapy water, pouring it down around the roots of the plants affected. If the aphids are killed the ants will move out.

It is a very good plan to sterilize beds with boiling water before planting. Use 4 or 5 gallons to each square foot and cover with sacks or similar material to keep the heat in.

Q. Can anything be done to get rid of the green and yellow ladybird? It ruins our dahlias. I thought Fuller's rose beetle was bad enough, but it can at least be handpicked and made practically harmless. Mrs. E. T.

A. This beetle is not a ladybird, although it looks very much like one. It is called the cucumber beetle and is a special pest of cucumbers, melons and the like, and of ornamental plants and flowers. Unfortunately it is hard to poison and when sufficient poison is sprayed or dusted on plants to kill it, the plants may be severely injured or killed also. Then, too, one does not like to cover ornamentals or food plants with poison. The larvae live on the roots of plants and so are out of the reach of ordinary means of control.

Handpicking as in the case of Fuller's rose beetle, is the only satisfactory remedy that can be suggested. To be effective it must be done early in the morning when the insects are sluggish. Calcium cyanide dust has been used against them with some success, but the home gardener does not have the means of applying it.

GET READY FOR THE CONVENTION

The state convention of the Federated Women's Clubs will meet here for a four days' session on May 8, 9, 10 and 11 of next year. The matter of decorations for the events is in our hands. For it we will need quantities of flowers and shrubbery, things suitable for decorating the auditorium, luncheon tables and guest rooms.

We are asking your assistance. Sweet peas, gladiola, salvia farinacea, Easter lilies and snapdragons can be used. Salvia plants for spring blooming should be planted now. Sweet peas should be planted in December and January for May blooming. Winter blooming varieties are preferred even for that date. Seed may be purchased by the ounce (60 cents) to better advantage both in mixtures and in one variety. Plant gladiola in almost superabundance in January. Great quantities of glads will be needed. Easter lily bulbs should be planted now.

We hope that every garden reader will devote a large part of his flower crop to convention purposes. Pass the good word along and help make this convention a marked success and a credit to the floraculture of our city.—M. A. G.

THE GRAY GOOSE SAYS

Did you ever consult an M. D. Specialist? Don't unless you want your sin to find you out. He is keenest of all detectives. He flashes a light in your eyes, ears, throat, then tells you what you had for breakfast yesterday, what horse you'll bet on tomorrow, and just what imps from the medical menagerie are regaling upon you. Another pushes some buttons and listens in on the deepest perturbations of your soul and body. Not content with this eaves dropping, he puts on a third degree until all is told from when you sat on your mother's knees. Then he leads you to a gloomy den and, without trial by judge or jury, seats you in the "electric chair". Said chair is of willow, broad, easy, wide of arm, and you are to furnish the "juice". Cables attached to your pulses reach a weird looking lowboy. It is not like a black coffin, nor a wee baby grand, yet suggests both, and has queer humps and doors on top. A hundred bumble bees begin to drone, a light on the lowboy shines, all other glims are doused. You are told to relax and to keep quiet—most difficult accomplishments. Then a tiny, golden thread with its shadow, like a trembling finger, writes your seismic record.

"The moving finger writes; and, having writ
Moves on: Nor all your piety nor wit
Shall lure it back to cancel half a line,
Nor all your tears wash out a word of it.

You go from that place feeling that judgment day has no terrors left for you; your accounts are all turned in. The specialist reads you a decalogue of "Thou shalt nots" till nothing is left for you to do except curl up on a cushion and purr. Might as well be a clam, and bay at the moon! Ah—but—clams do not bay neither do they purr, and perhaps one might learn to take pleasure in purring. Evidently this M. D. thinks gray borrowed-timers should be carried to the skies on flowery beds of ease. Happy thought! If permitted to scratch in the garden we can make our own flowery beds of heartsease.

INFORMATION WANTED

If any one knows where *Pernettya mucronata* can be obtained in the U. S. will they please send word by postal to K. O. Sessions, San Diego. It is a very handsome shrub with bright deep purple berries following the white flowers. It is a low shrub with fine dark green foliage—and all low growing plants are in great demand for Southern California. It was the most attractive low hedge plant I saw in England in 1925 and we need it here. To import it takes a long time and much risk because no plants can be shipped with the soil about their roots.

OLD ELMS

I love old elms on city Streets—
Their splendid colonnade
Above my head in beauty meets,
Making a wide arcade.

I love old elms by cottage gates—
Beneath their fountain sprays
The summer's sun scare penetrates
To greensward with its rays.

I love old elms on college green—
Brooding beside the wall,
With turban-crowned or drooping sheen,
Venerable to all.

I love old elms alone in fields—
A choir for the meadow larks;
At sunset hour man homage yields
These feather-plumed monarchs.

I love old elms in forest homes—
Their cool, green shadow naves,
Their leaf-mosaiced, Gothic domes,
And God-placed architraves.

I love old elms in any place
At any time of year—
In summer's floral trinket grace,
Or ribbed, and groined, and sere.
—Cora C. Butler, in *American Forest*.

SAN DIEGO WEATHER IN OCTOBER

By Dean Blake.

In October there is a noteworthy decrease in the number of cloudy nights and mornings; an increase in the visibility, largely due to the lower humidity prevalent; a marked lowering of night temperatures; and a clemency and balminess to the air that is delightful. As in September, warm waves may suddenly burst over the district, when the mercury may reach 90 degrees or higher, but, as a general thing, the highest day temperatures range around 70 degrees.

A little early for heavy rains and strong winds, the showers that fall are mostly light and of short duration. It seldom happens that we have more than three days with measurable precipitation.

Since the record began in 1872, the highest temperature recorded was 96 degrees in 1901, and the lowest 44 degrees in 1878. In 1925 all 24-hour rainfall records for the city were broken when 3.25 inches fell in one of the most phenomenal rains ever recorded. Previous to this there were only 8 Octobers with over an inch since 1850. Dense fog is more apt to occur in this month than any other. Only once has the wind reached storm force—in 1877. The average sunshine is 72 per cent of the possible.

Complete files of the California Garden may be obtained from Sec. A. D. Hill, Balboa Park, at reasonable prices.

CULTURE AND PROPAGATION OF THE CRASSULACEAE

By Dr. E. Bade.

The succulent leaved Crassulaceae inhabiting wild and rugged regions, have, through adaptation, accustomed themselves to extreme variations of temperature. It is but natural, that, under these peculiar conditions, sunlight has become a necessity, and in rocky barrens and regions of partial drought their development has, necessarily, been modified to conform to their environment. And this has led to the formation of rosettes.

Succulence, no matter under what condition it is found, is always an ingenious device for the prevention of excessive evaporation. The living tissues secrete a large amount of a thick gelatinous or gum-like substance together with a deposition of salt. Water, absorbed during the rainy season, is retained. Through the formation of such a thickened leaf, a smaller evaporation surface is obtained, and the watery tissue of the plant almost completely fills the leaf.

To draw the conclusion that the Orpine family should be kept as dry as possible is absolutely wrong. During the period of growth these plants require a regular and moderate supply of moisture. In their resting stage, an entirely different state of affairs holds true. Then they need but little water, and that little at infrequent intervals. It should only be given when it is absolutely necessary to prevent wilting.

Although these plants have become accustomed to the direct rays of the sun, they can be kept in a moderately shaded place during their period of rest. But when the plants show signs of reawakening life, and begin to vegetate, they must be brought to the light gradually. They cannot be placed directly into the fiery glare of the sun, it will only injure them and cause their death.

The thick-leaved Crassulaceae are not only very unassuming plants, but they are easy to cultivate both in the open and in the window garden. Their peculiar shape makes them very attractive. The young plants are to be transplanted every fourth or fifth year, if they are kept in the window garden, and then only in comparatively small pots, since the roots are small and take up but little room. They are satisfied with any type of sandy soil, but will only flower when plenty of lime is present. Therefore a limy soil is mixed with good garden soil and sand.

As a rule all the plants of this family so that this vegetative method of propagation is relied upon for the formation of new plants. They can also be multiplied by leaves cut closely to the stem. When the cut end has thoroughly dried and the leaf has slightly wilted, they are placed in clean sand. This is kept but slightly moist. Soon tiny roots will be developed together with the formation of tiny rosettes upon the leaf. The leaf will

later die. It is advisable to cover the leaf with a globe so that the atmosphere is kept moist and warm. This facilitates the growth of the new plant.

The hardier species of Sempervivums, the Hen-and-Chicks, although rarely found in the usual garden, are nevertheless pleasing and unique plants. They generally find a place in the mountain garden although they have been used for other purposes as well. These plants prefer a dry sandy or pebbly soil and require the full light of the sun. Propagation is profusely carried on through rosette-forming shoots, which, after a time, free themselves from the mother plant.

A richer type of soil becomes necessary for the development of Sedums. Although they also require full sunlight, the soil must be nutritive and at the same time loose enough to absorb the water. When the hardy species have once become established, excessive heat or dryness will not injure them. Propagation can easily be carried out with cuttings as well as with a division of the plant. They will also multiply through seeds which should be sown in the open during the months of April or May.

THE GARDEN

(Continued from page 5)

shade. It is well to plant about five inches deep in heavy soil and an inch to two more in light soil. For pot culture plant only one bulb to a five inch pot and bury pot in a shaded place in the garden or put in a dark place in the basement. In six weeks time bring them to the light, giving them plenty of fresh air and water. Hyacinths come largely in colors different from other bulbs and are delightfully fragrant.

If you want to take away from the stiffness of the hyacinth bed plant *Nemophila* seed on top of the bed about January the first, mulching with leaf mold or barnyard manure. The *Nemophila* will make a very attractive covering for the bed and will help produce longer stemmed hyacinths.

Lilies are very satisfactory in Southern California and do well in ordinary garden soil. They should be planted in permanent location where there is some shade and shelter from the wind. Lillies require deep planting from seven to ten inches and clayey soils should be mixed with leaf mold and sand. *Lilium Regale* is one of the most popular. The flowers inside are a canary yellow fading to white and often suffused pink. Outside they are white shaded purple. They are profuse bloomers, specimen plants after they are two or three years old bearing as many as twenty to twenty-five flowers.

There are a host of other bulbs that can also be planted now. Freesias, *Ranunculus*, *Anemones*, *Spaxaris*, *Scillas*, Grape Hyacinths, Paper White *Narcissus*, Chinese Lilies, Star of Bethlehem, etc.

STRAY THOUGHTS

By Peter D. Barnhart.

Foliage plants for spectacular effect in the scheme of Gardening in this Southland is not understood by the majority of those who practice the Profession, even in a limited way. Belonging to this class of plants are: *Amaranthus salicifolius*, a native of the Philippines; the foliage of this species is long and narrow, and brilliantly colored; *Amaranthus giganteus*, of which Bailey says: (very variable) is also a tropical species. The ones I grow are bronze colored, the terminal branches of the plant are a gorgeous crimson and scarlet. Poor soil and a small amount of water are conducive to finer color, than the opposite in its culture. For fine effect, and in marked contrast to these plants, is *Snow-on-the-Mountain* (*Euphorbia marginata*) also an annual. Mexican Fire Plant (*Euphorbia heterophylla*) is also a brilliantly colored species, but never gave me much satisfaction.

Advertising: I always have thought, and am still of the same opinion, that our nurserymen would sell five times the plants they now dispose of, were they to let the world know that they have others to offer besides Privet, Plumbago, Italian and Monterey Cypress. As a rule this class of business men give little or no thought to advertising. They write out a few words, hand it to a publisher with instructions to "run" it a few times, pay the bill grudgingly when presented, and forget all about it. No variation in "copy" year in and year out, then complain, and say, "advertising is nothing more than a contribution to the paper they patronize".

To the thoughtful reader of all magazines and horticultural journals, the publicity given all other branches of industry, by interesting and informative advertising, accounts for their growth, and prosperity. If the same system, and the same amount of thought, that is used in advertising autos, and their accessories; a certain make of yeast; a particular brand of soap, the kind "the preserves that School Girl complexion", were put into practice by nurserymen of California, the commonwealth would in ten years become a veritable Botanic Garden; a Garden of Eden; the Mecca to which the world would hasten to behold its beauty. Moreover, by judicious advertising, nurserymen would make it possible for horticultural journals to give their readers a finer type of publication than is now possible, on account of limited advertising patronage.

Note. In the list of Flower Show awards announced in last month's issue, the winner of Class No. 20, best keeping dahlia in amateur section, was not announced. This trophy was awarded to Mr. and Mrs. E. Thelen of National City, the winning flower being a Carl Salbach.

PLANT HUNTING

By Ernest H. Wilson, M. A., V.M.H.

(2 vols., The Stratford Company, Boston, 1927; \$15.00)

The contents of this handsomely printed and illustrated work are not well indicated by the title. One anticipates either a general history of horticultural exploration, a romantic field which has yielded many thrilling tales in the past but which has not been very completely summarized in any single purview, or else an account of the personal adventures of the distinguished author. But in fact the work as a whole is neither. It is really an aggregate of materials, arranged in the main geographically, but otherwise with little attempt to work them into a narrational whole. In scattered chapters the accomplishments of many of the earlier plant hunters, notably Dampier, Banks, Cunningham, Fortune, Veitch and others as honored, are spoken of in cursory but appreciative fashion, other pages in cursory but appreciative fashion, other pages afford us interesting and sometimes exciting glimpses of our author's own remarkable experiences, while still others paint illuminating word pictures of the outstanding vegetational features of various strange and distant lands. Some chapters are largely given to an almost too catalogue-like discussion of the plants of a region, over which I fear some readers will not long linger. Not all the chapters are as easy reading as those on Kenya and Uganda, the wonderful land of Western Australia, China, (special field of the author!), Korea, and Japan. These volumes consequently lack much of the unique charm of such Wilsonian writings as "America's Greatest Garden", but a rich store of interesting information, nevertheless, manages to find inclusion in their covers and is supplemented by so extraordinary a selection of surpassingly beautiful photographs, mostly taken by the author, that no true plant lover will want to miss having the set on his shelves.

Says the writer: "Sometimes friends have said, 'You must have endured much hardship wandering in and out of the way corners of the earth'. I have. But such count for nothing, since I have lived in Nature's boundless halls and drank deeply of her pleasures. To wander through a tropical or temperate forest with tree-trunks more stately than gothic columns, beneath a canopy of foliage more lovely in its varied forms than the roof of any building fashioned by man, the welcome cool, the music of the babbling brook, the smell of mother earth and the mixed odors of a myriad of flowers—where does hardship figure when the reward is such?"

A number of typographical errors which ought to be corrected in later printings are offset by an elaborate and useful index. Such an index is a rich blessing in such books, not always, alas, granted to us.

S. S. B.

THE WEB OF LIFE

By Harry Johnson.

(Continued)

We take for granted the visits of bees and butterflies to our gardens seldom thinking of the beautiful structures implied nor of their deeper meanings. Let us walk out into the garden and sit before a flower and see what actually happens. As we walk down the path a buzzing arises from the bordering Shasta Daisies. Looking closer we see hosts of Blue Bottle flies busily thrusting their tongues down the short tubes of the tiny florets composing the head. They are licking up the nectar secreted there. Numbers of tiny winged insects of various kinds are disappearing within the flowers backing out immediately here, tarrying longer when the nectar wells are full. The long, white ray florets of the older flowers are stained with refuse; spotted with golden daubs of wasted pollen. Here and there predaceous, jumping spiders gorgeously arrayed in metallic green are lying in wait for unwary visitors. With a buzzing plump a stingless Italian bee lands and busily begins collecting the abundant and clinging pollen. No time now to bother with nectar; one job at a time. Armsful of it are plastered on his hairy hind legs. In a moment he is off circling over the adjacent blossoms. Other visitors arrive, common houseflies, striped bees, metallic green ones, wasp-like fellows and on looking closer we see a myriad of white mites actively climbing about. All here to partake of the bountiful repast spread before them. It appears to us that flowers pay generously for any services rendered.

Let us pluck the flower and take it indoors with us. Looking at it closely we see that the central yellow disk is really composed of scores of perfect, tiny yellow blossoms arranged in an orderly tessellation. Those of the periphery are withered and past. Then a ring, three or four deep, of spreading recurved stigmas and full glown flowers followed by a ring of club-shaped orange-yellow stamens crowned with an oily mass of heaped up pollen. The petals of this series are wide spread and to them the insects give most attention. The central area holds only unopened buds. The conspicuousness of the Shasta Daisy is contributed by the snowy-white ray florets.

Pulling out a number of the florets we see that they are attached to a convex disk. At the base of each floret is the ovary or tiny seed pod containing a single seed. Crowning this a tube flaring upward into the five segments of the corolla. Attached on the inside and at the base of the tube are the five thread-like filaments of the stamens. The anthers, or little purses containing the pollen or male element, are united by their edges to form a tube. Arising from the apex of the ovary is

the long slender style cleft at the top to form the divided stigma. This is thrust like the plunger of a pump through the tube formed by the anthers. At the base of the petals is the ring-like nectary. The floral parts are thus all placed above the seedpod. As might be expected the parts have not assumed their form nor position aimlessly but each is accurately fitted to its position in both time and space.

Let us analyze the parts played by each of the features described and see how they fit together to form an harmonious whole. The most interesting thing about the flower is the fact that it really is a colony of individuals. It differs in that respect from a rose or poppy. As we have seen the bringing together of scattered flowers into a simple raceme held above the foliage increased the conspicuousness and enabled the insects to work with more ease from flower to flower. The flower head of the Shasta Daisy is simply a spike the axis of which is expanded and foreshortened bringing the flowers into close proximity. Thus the insect may work over a great many blossoms without wasting time flying about. The labor of attracting visitors has been assumed by the outer series of florets, which, being sterile, devote their entire energies to the problem. Beneath the disk is a series of bracts forming an involucre whose duty is to shield the head while in the bud. The disk florets are thus free to perform their special task. As we have seen the seed pod is attached directly to the disk. Within the pod is a single seed the outer protective coats of which are formed by the seed pod itself. Each floret having but one seed to mature can store it well with food and protect it well with the added coverings. Needing no calyx to cover the separate buds it is reduced to a mere scale the material saved going to the seed. The corolla is united to form a narrow tube guiding the insects to the nectar. The distribution of the pollen is effected through a unique mechanism. The pollen itself clings together and to anything that touches it because the outer coat is covered with minute prickles. The anthers dehisce into the tube which they form before the stigma becomes receptive. The stigma pushing up through the tube forces the pollen out through the end where it is available to the insect visitors. Thus continually there is a fresh supply. Flies and bees walking over the flowers probing for nectar or gathering honey become covered with the sticky dust brushing it off later on the hairy stigmas. The older ring of flowers with the receptive stigmas are of course jammed tightly against the freshly opened, pollen dusted flowers. The stigmatic lobes, at first erect, slowly recurve and so, if cross-fertilization is not effected, they later come in contact with the fresh pollen mounds of the inner ring insuring at least self-fertiliza-

tion. It would be difficult to imagine a more simple yet effective means of insuring the setting of seeds.

Each species of plant has developed its own particular way of utilizing the agency of the wind or insects. Some have tended to specialize on certain groups as the pea family and bees, the rose family and short tongued visitors, milkweed and flies or beetles. The degrees of dependency vary within wide limits. Orchids, Yucca, etc., absolutely require insect aid to transfer pollen, many others are adapted to self-fertilization at some seasons and to cross-fertilization at others while some utilize either.

Interlocking at every turn, we see nature as one harmonious whole, discordant only when our own preferences are overruled, moving onward and upward, each age a higher turn on the spiral, each advance so hardly won serving only till improvement overtakes it. We may well ask ourselves, "What will the future bring?"

THE GLADIOLUS BOOK

By Forman T. McLean, William Edwin Clark and Eugene N. Fischer.

(Doubleday, Page & Co., 1927—\$5.00).

This well written and well arranged monograph is one which should quickly find its way into the library of every gladiolus grower or fancier, be he amateur or professional. In no other volume which has reached our shelves has so much informative and valuable material concerning this popular genus been included in a single cover. The authors seem well qualified for their task and treat the subject in catholic fashion, discussing first the wild prototypes of our garden forms, then the development of the principal classes of horticultural varieties in the hands of many breeders, the planting and care of the corms, propagation, and the classification and rating of varieties. There are some good hints on the decorative use of the flower. Even the various Gladiolus Societies which, by their shows and propaganda, have done so much to excite the popular interest, come in for a chapter of their own.

The authors advise quite counter to the current idea that the gladiolus is a heavy feeder, stating that it requires only moderate fertilizing of the soil. However, plenty of feeding space is recommended and hence not more than two or three corms should be planted to a square foot, either in beds or in garden rows. The moot question of shallow or deep planting is not answered dogmatically, but is held to depend primarily upon the purpose in the mind of the cultivator. For wealth of flowers with little care deep planting is directed, for the finest exhibition spikes shallow planting and wider spacing.

One interesting statement is the following on p. 121-122: "According to the modern

interpretation of Mandel's Law the separate heritable characters behave as independent units. This may be so in a measure with other flowers, but in my experience I find it to be only partially true of the Gladiolus." Critical evidence for this opinion is not given, but it seems to the reviewer that the last word in the matter is certainly not said, nor will be until a scientific genetic study of all the factors involved, doubtless very complicated, has been made.

Only a few points need be mentioned in criticism of the book. Perhaps for a popular volume of this type too much space is used in discussion of the technical "points" of the modern gladiolus and the details of "scoring" it. "Gladiolus" is used throughout in both singular and plural senses, an ultra-modern usage, but scarcely to be commended as the context often becomes a bit confusing as a consequence. A number of minor typographical errors should have been picked up in the proof-reading, the name "Sword Lilies" on p. 1 no doubt being one of these. Most serious of all and a very real defect in a book of so much educational and reference value, is the constant use of the terms **bulb** and **bulblet** in place of **corm** and **cormlet**, or perhaps better, **cormel**. The gladiolus of course forms a true corm, and that an incorrect usage has for the time become popular or is thought to be "easier to say" (p. 11, 55) is the poorest possible excuse for its continuation and encouragement in a work of this class.

S. S. B.

STARTING PRIMROSES FOR WINTER FLOWERING

This is the time to sow Primroses in order to have them blooming well from February and on until Easter. Usually about seven find it a good plan to use flat boxes or seed of Primulas is sown until the plants are in flower. Use shallow boxes or seed pans, and fill them two-thirds full of light loam, leaf mold and sand. The seed germinates rather slowly so that it is a good plan to soak it for twenty-four hours before planting. One good result of this practice is to secure more even germination than would otherwise result. Also make certain that you have fresh seed. This is of the utmost importance.

In about six weeks the young seedlings will be ready for pricking out, and you will find it a good plan to use flat boxes or seed pans for them rather than pots. A good soil can be made of one part common loam and two parts peat. By the time the plants have three or four leaves they will be ready for potting up in small pots which can be done without setting them too deeply. Then if the Primulas are placed in a frame where they can have plenty of air, they will make rapid growth.—Horticulture, Boston.

LATH HOUSE MATTERS

By Alfred D. Robinson.

What glorious October days, and how satisfying is the lath house, morning and evening, as the sunshine slants through the lath and throws a high light on spots of color. The fibrous President Carnot or Yosemite or Flammarion, which ever yours is, is a marvel when the sun shines through its branches of bloom till they seem to drip with good red blood, and the leaves with the light through them are almost as brilliant. The tuberous continue to bloom as if they hated to go dormant and miss one of these days of days, but one must steel one's heart and warn them by skimpy watering that it is time to quit. Many of my tuberous are apparently dumped. The pots are over on their sides, the earth seems dry and the plants wilted and tender-hearted visitors continuously do cry, "Why are you throwing these away?" If I have explained once, I have twenty times, that with the tuberous I am now thinking tubers, not blooms, and am working on a theory that they should go dormant gradually instead of waiting till stress of weather does a quick job. A good place to ripen off tubers is under benches, keeping the pots on their sides and sprinkling all over them frequently, but not enough at any one time to start growth again, a dampish atmosphere is what is required. This does not apply to seedlings of this year, which just now are making a brave show, especially *Narcissiflora*. that are delighting me by coming over seventy-five per cent true to type after four years of careful selection of parent seed plants and hand fertilization. This variety is sure to be very popular and being a late bloomer will prolong the tuberous season acceptably. Among the tuberous seedlings from Lady Blanche, our white hanging basket type, were several large single pinks with a snaky, rather than a drooping habit, and in the second season one of these has decided to be different, sort of have self expression, and it has grown with a strong, stiff, straight stem and today is measures four feet and a half from the earth in the six inch pot in which it has grown to these tremendous proportions without any feeding. The better half of Rosecroft opines that it won't make much of a tuber, but I hope to have a chance to grow it next year into a tree.

The seedlings from Frau Helene Harms, that dwarf double yellow tuberous are now blooming and are justifying my faith in the one and only bet I have found worth making in this so-called plant breeding, and that is that color is apt to follow the male line and habit of growth the female. A strong orange supplied the pollen and the seedlings that have bloomed so far are mostly of that shade and none are as much of a blonde as Ma, though all seem to have her short stature and rotundity.

Having recorded a measure of success it is only sporting to admit that so far I have failed to put the color of those brilliant Rexes into the seedlings, though using much of the pollen from Rajah, particularly, but then Rexes never do behave to schedule, they are like the two women grinding at the mill, one is taken and the other left, side by side will be a wondrous plant and a dub and both have apparently an equal chance. For winter showing young Rex plants are the best, the large specimens are apt to rest and probably they are better for it next season, I am rather letting the old folks alone, letting them stay at home nights and wear their old clothes and encouraging the young fry. I have been repotting a lot of these today and placing them in a warm spot under the glass. The cloth shade in glass house and lath is gradually coming down, the sun is bright but it does not burn and it is right cool in the shade by sundown. Under the lath we have touched fifty-two two nights in succession and under the glass it has been only two degrees warmer. The lamps in my little glass house have been going for over two weeks and last night they barely held it to sixty.

Since I wrote the last article I have taken my own advice and have worked frantically on *Manicata*, *Feastii*, *Bunchii* and Mrs. Townsend, both in baskets and pots. I hope to arrange several pots in the large Redwood trays I have been using for Rexes and Tuberous and so approach that wondrous specimen of *Bunchii* that came to one of our Shows in a galvanized washtub.

I strongly urge getting in a supply of leaf mould and putting it up with layers of cow fertilizer for Spring use. Now before it rains it is easier to obtain and its quality can be better judged, all soils look rather alike when wet. A citizen has been looking around for black soil and was quite indignant when a purveyor told him he would have to wait till it rained, and then he could get plenty. I have a big bin filled this last week, half of it being my annual cow crop, the milk is incidental which considering the amount the animal yields is fortunate.

From far Maryland, possibly the Heart of Maryland, comes a sick *Begonia* leaf with a tale of woe. It is the old story of leaves turning brown at the veins and dropping off leaving a modern limb, I mean a bare one. The only remedy I have ever found is to take the plant out of the house and the pot and put it in the ground and forget it, in the majority of cases this does the business, I might say in all cases because it either cures or kills, a result either way. This is called by the learned the *Begonia* disease, the merely

informed say Spider, while the multitude murmur Thrips. All I know is that I find it in the vast majority of cases in houses and rarely see it under lath and think lack of ventilation and too much warmth and dryness are the principle causes and Spider and Thrips attendant devils. Volck spray seems to be helpful and I hope to have time, inclination and the memory to spray thoroughly everything the end of March. I also hope to do more pruning than I have ever done.

I have just bought another gold brick. I saw advertised THE TROUT Begonia, a novelty that every florist should have, but there I will copy the whole bait so you can see why I was hooked.

"Trout Begonia, marked like a speckled trout; a beautiful plant novelty every florist should have; propagates easily from leaf cuttings."

The trout came this morning, they were mere fingerlings of *Argentea Guattata*, perhaps the oldest of all the old Begonias, and the devil of it is that the description, barring the novelty part, is true, and the point of the joke is made even sharper because within one inch of the Trout offer of two for \$1 appears *Argentea Guttata* for 5c.

Just for instance I mention that I have certificates from the last show for two things unknown to me, *SOWEUIA FOURIERI* and *Begonia LEUCUSIS*, could these have been *Torenia Fournieri* and *Begonia Luxurians*?

OCTOBER FLOWERS

(Continued from page 5)

ingly short time. The seed bed described above is the best one for Delphiniums. The preparation of their permanent bed begins far in advance of occupation. The soil must be deep and perfectly drained. Do not spare yourself or anybody else in digging it down far. Never use a fresh animal fertilizer in the soil. A little of very old manure is all right, but peat humus or leaf mould and bone meal are the best fertilizing materials for Delphiniums. Let your bed lay with these in it and turn it occasionally while the plants are getting large enough to move. Delphiniums seem to approve of light shade, although I have seen them growing splendidly in full sun.

It is well to remember that mildew seeks out these plants. The preventive that seems best recommended is spraying the plants and soaking the surrounding soil with a commercial mixture called "qua-sul".

* * *

If you desire all heavenly blue Delphinium try *Bella Donnas*. The gold medal hybrids are all possible tones of blue, some being burnished with mauve and heliotrope. An English gardener has produced a strain called the *Wrexham*. It has been nicknamed *Hollyhock Delphinium*.

* * *

Some of the old-fashioned garden flowers are sown in flats now, as for instance the

pansy, viola, carnation and double daisy or *bellis perennis*.

The stable fertilizer spared on the delphiniums should be put in the pansy bed and more besides. Blood and bone is excellent also. For the joy in pansies is having huge, velvet like blossoms with long stems. What is incorporated with your soil determines these items. Steele's mastodon or the Johnson strain from England will assure the finest colors and quality. Steele's miracles are expensive but of immense size and remarkably ruffled.

Don't let anyone tell you pansies have no fragrance here. They have if the bed is watered deeply at sensible intervals instead of being constantly sprinkled. A mulch of sand or other material around the plants is good.

* * *

Violas are either miniature pansies exactly or varied with pointed chins. They are very quaint and sweet for beds or borders or bulb plantings. There is a long succession of blooms and the tops may be trimmed back for more.

* * *

Double daisies are wee and modest and pink tipped, according to Bobby Burns. This is enough for most people. They are pretty atmosphere, perennial and impervious. But if they are given good care and fertilizer, they develop into material for fanciful little bouquets.

* * *

A package of Chaubaud's carnations is a fine beginning for a fragrant, hardy, long-blooming bed of flowers. An average of 80 per cent come double and they are florist grade. The seeds are novelties among them. The seeds are not much trouble and planted now, will produce a crop of real delight in spring.

* * *

Hollyhocks and gaillardia of the old-fashioned are better sown where they are to grow. Choose a sunny place for the hollyhock, of course, and prepare the soil well. Cover the seeds a quarter inch with sand and use a light mulch or cheesecloth. Remember to spray the plants with bordeaux at times during their growth. Choose Chater's double strain in a solid color, red or Newport pink preferably, and there is the beginning of an enviable row of hollyhocks. The double are like large pom-poms of shirred silk.

Gaillardias are desirable for the size and brightness of their flaunting Indian bonnets of blossoms. There is a new hybrid out that is extra fine. The seeds are coarse and germinate easily in the open if given regular moisture and a protective mulch.

WANTED—July and August, 1927, numbers of the California Garden. Several copies are needed very badly. If you can spare one send it to: R. R. McLean, Court House, San Diego.

COFFEE GROWING IN ALTA VERAPAZ

By Harry Johnson.
(Continued)

After drying they are carried upstairs and dumped into the secador or hot air dryer. This is a large, slowly revolving cylinder, the surface of which is perforated with many small holes, the interior being divided laterally into four compartments, filled with dozens of small stops. Through the center a large pipe passes connected at right angles to which are many small, 2 feet long, perforated pipes. A current of hot air is forced through these from the blower connected up to a furnace. After about thirty-six hours the berries are sufficiently dry to be easily hulled. They are then sacked and will keep indefinitely.

The next process is the removal of the parchment. The decorticator is a long, tubular machine into which the berries fall, passing along a revolving worm which grinds off the parchment and inner chaff, pushing them out over a strong current of air which blows the light hulls upward and allows the cleaned beans to fall onto a belt conveyor which carries them upstairs again to the grader. As a rule they are run through the decorticator twice to remove every trace of parchment and silver-skin and to polish them.

The grader is a long, slowly turning, wire cylinder, with a worm passing from end to end. The beans pass into one end where the wires are closely spaced, allowing only the malformed and immature beans to fall through. The wires are spaced successively farther apart allowing the different grades to fall into the waiting sacks. At the end the pea-berries and first grades drop out. Normally there are two seeds in each fruit, the mutual pressure of which flattens one side of each. Sometimes, due to the fertilization of but one ovule, there is but one seed which grows round. This is the so-called caracol or pea-berry. It is the finest grade, as during roasting it browns more evenly.

The final sorting is done by hand. Indian women sit at long tables and go over the beans, removing the malformed and discolored ones. A tarea is 100 pounds, though a good sorter may double this. The coffee is then carefully weighed into 125 pound sacks and is ready for shipment. Two sacks are slung over a pack-saddle and a diminutive mule packs them to the nearest railroad station. The crop raised near Coban in the interior is brought to Pancajche, the railroad terminal, in two-wheeled carts drawn by oxen. At Panzos, the lower terminal of the 28-mile railroad, it is put aboard barges and lightered down to Livingston, the seaport.

Owing to the difficulties of travel and freighting in the Verapaz, conditions are more primitive than in more easily accessible places. The Indians still speak only their native language and one must learn Kekchi as well as

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Spanish. Costumbre (custom) still rules their lives and new innovations are seldom successful with them. Improved horticultural methods, such as are practised in the States, are mostly impracticable for various reasons. Plowing or stirring of the soil, where possible, usually does more harm than good, owing to the excessive rainfall, with the consequent erosion. Cleaning the cafetals twice a year—January and February by hoe and later by machete—serves every purpose.

Pruning consists simply of removing the dead twigs and preventing a too thick growth of suckers. The natural habit of the coffee tree is good. The tendency is to grow upright, reaching 8-15 feet, and having from one to four or more equal leaders. Each leaf axil contains two buds, one above the other. The lower bud produces the upright leaders with decussate leaves which form the main skeleton of the tree. The upper bud develops into the lateral pendent branchlets with leaves in a horizontal plane, due to a torsion of the petioles. On these are produced the fruit. These laterals produce for three years or more. The trees should bear profitable crops for twenty years or more, depending upon the care given them and the location. As a matter of fact, however, some of the fincas find it more profitable to set out new plantings yearly, abandoning them partially after about ten years. Owing to the cheap labor and land and the precosity of the trees, this is a paying practice.

Insect pests are conspicuous by their absence. The coffee blight, *Hemileia vastatrix*, is prevalent, mauling the berries and defoliating the trees. It seems to be encouraged by high humidity and lack of air circulation, those trees in shady places or in ravines being more subject of attack than those in exposed situations. Trees in poor vigor are most seriously attacked, particularly old trees growing where grass has gained a foothold or where the top humus carrying strata of soil has been washed away. The industry does not appear to be seriously threatened by the pest which wiped out the industry in Ceylon.

Three varieties of *Coffea arabica* are grown. The most widely planted and the most profitable is the "arabica". The quality is superior, it bears well and the crop brings a better price. The Bourbon is sometimes planted in the lower elevations, where it does well, but the cherries are very subject to drop when ripe, any moderate wind knocking off all the pickable fruit, making it necessary to pick over the cafetals too many times in a season. The quality is good, though the berry is small. Maragogipe is also planted in the lower plantations, where it thrives best. In most strains of this variety the berries are very irregular in shape, due to the large sinus down the middle. On the fincas Sacomum, however, the strain grown is superior, being very similar to the arabica varieties.

Coffea liberica has been grown and marketed. The species is a good sized tree up to 25 feet. The leaves and flowers are much larger than *Coffea arabica*. Flowers and ripe fruit are to be seen the year around. The fruit is large and invested with a tough epicarp, making it very hard to pulp. The parchment is tough and hard and ruinous to the decorticator. It produces a strong flavored cup and is not to be recommended for planting at least in the Verapaz.

Coffea robusta produces a large, more upright tree than *coffea arabica*. The crop is produced at one season, the cherries being deep reddish purple in color and the very very small; the quality is fair. It has not been planted commercially.

There are two tribes of Indians in the Department, both belonging to the Mayan race. The Kekchis are the most numerous, being a docile, easily managed people. Every finca has a colony who cultivate their own farms and work every other week for the finca with time off to plant and harvest their cornfields. They live very primitive lives, civilization not having affected their domestic habits. Corn is the chief food with a few black beans, chyotes, avocados, squashes and wild herbs to supplement it. The habitations are simply palm-thatched huts with walls of tortillas, a few earthenware jars, a hammock and a bench to sleep on, completes the furnishings. Their wants are few and easily supplied, so the low

wages, 2 cents to 40 cents per day, are ample.

The life of an Administrator (Superintendent) is a pleasant one, albeit a most lonely one. The smaller fincas, producing less than 1200-1500 hundred weight are managed by natives, but most of the larger ones are superintended by Europeans. The haciendas are usually very comfortable to live in, while there is always an abundance of servants. All responsibility rests upon the Administrator, who is judge and jury, respecting, of course, common usages and customs. The personnel consists of a major-domo, who looks after the routine of the field work. Under him are caporals or foremen of the gangs, each gang consisting of about thirty mozos. The Indians, being very gregarious, do better work when in large companies. All labor is performed on the task system, every class of work having a fixed amount to constitute a day's labor. This is very satisfactory, as it, to a great extent, obviates driving and poorly done work. One may estimate with confidence how much labor each undertaking will require.

A commissary is maintained for the benefit of the laborers. Clothing, trinkets and salt are most in demand. Rations are issued weekly to the meseros and voluntorios. These are the men who work steadily in the beneficio or who are recruited at picking time.

Coffee growing has always been a gamble, though the market has been greatly stabilized through the establishment of warehouses in the great market centers. During the war prices fell very low, only to reach unheard of heights. This season they have dropped again owing to adverse exchange conditions. The American dollar is worth too much.

SEPTEMBER MEETING

The regular monthly meeting of the San Diego Floral Association was held in the Floral Building in Balboa Park, Tuesday, September 20th, at 7:30 p. m.

The meeting was called to order by the president, Mrs. Mary A. Greer, who took occasion to thank all of those who work for the success of the fall flower show. She then introduced Mr. Thos. McLaughlin, of Encinitas, who gave the meeting a genuine scare when he opened his talk by saying that the program committee should be scolded for selecting him as a speaker. However, what fears those present may have had were soon dispelled as Mr. McLaughlin began to speak on the subject of bulbs and bulb culture; and we hope that the committee may give us some more scares of the same sort as Mr. McLaughlin, whose very instructive talk was followed with much interest and close attention.

After looking the Pacific Coast over, he finally settled in Encinitas, and is convinced that San Diego County is the place for bulb growing—predicting a great future for that industry here. He went thoroughly into the

subject of bulb culture, soil required for the different kinds of bulbs and in the matter of fertilization. When he stated that he was through, the meeting resolved itself into a series of questions, which brought out many interesting points regarding the time for taking them up, how deep they should be planted and the like. He spoke especially of Irises as a profitable flower for the amateur gardener. They grow best in sandy loam, need but little fertilizer and are about the best shippers of all bulbous flowers.

In his discussion, hardly a thing which bears on the successful flower garden escaped attention—even the much despised weed being lauded for its generous supply of nitrogen and humus; not that Mr. McLaughlin suggests that we grow weeds—not by any means—but the presence of weeds in the garden need not disturb one except in that they have to be taken out; but when that is done, throw them on the compost heap and not in the alley for the rubbish man to haul away.

Miss Kate Sessions followed Mr. McLaughlin, and in her usual happy fashion explained a number of specimens placed on exhibition. The meeting then adjourned and entered into an exchange of bulbs brought in for the purpose.

A. S. HILL.

CHINESE ELM VALUABLE TREE FOR MANY SECTIONS OF U. S.

Among the many valuable contributions of northern China to American horticulture the Chinese elm stands out as one likely to prove of increasing value to certain sections of the United States, says C. C. Thomas of the office of Foreign Plant Introduction, United States Department of Agriculture. The tree, introduced in 1908, is now established in a number of places in this country and the seeds and plants are offered for sale by several nurseries in the South and West.

The Chinese elm is very hardy and has proved valuable under a greater variety of climatic and soil conditions than any tree yet introduced. Very favorable reports have been received from practically every section of the country, says Mr. Thomas. The tree has proved winter hardy in most trials in the Dakotas, Minnesota, New York, Montana, and other Northern States. Its resistance to drought, alkali, and extremes of temperature render it an especially valuable tree in the Great Plains region where desirable shade trees are few; in the semiarid South and Southwest, and, in fact, in almost any portion of the continental United States.

The tree is one of the first to leaf out in the spring and the last to shed its leaves in the fall. Throughout the long season the leaves remain a beautiful green and are remarkably free from the usual plant diseases and insect injuries so common in many of

the other elms. As a shade, windbreak, and avenue tree it has proved to be the most successful introduction of this kind thus far attempted. Aside from these uses it is likely that it can be used as a hedge also. A recent report from one of the department's explorers in Manchuria states that the tree is used there for hedges 2 to 3 feet high, in some instances being used for screens up to 12 or 15 feet in height. Cutting back at the desired height causes it to branch into form suitable for hedges. Efforts are now being made in experimental tests by the department to determine its hedge-making qualities in this country.—U. S. D. A.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912,

Of California Garden, published monthly at Point Loma, California, October, 1927:
State of California, County of San Diego, ss.

Before me, Clerk of Superior Court in and for the State and County aforesaid, personally appeared R. R. McLean, who, having been duly sworn according to law, deposes and says that he is the Editor of the California Garden, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:
Publisher, San Diego Floral Association, Point Loma, Calif.
Editor, R. R. McLean, San Diego, Calif.

2. That the owners are: (Give names and addresses of individual owners, or if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent or more of the total amount of stock.) San Diego Floral Association, Point Loma, Cal., Pres. M. A. Greer, 2972 First Street, San Diego, Cal.; Sec. S. A. Hill, Balboa Park, San Diego, Cal. There is no capital stock.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholders or security holders appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has not reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the six months preceding the date shown above is, (This information is required from daily publications only.)

R. R. McLEAN.

Sworn to and subscribed before me this 15th day of October, 1927.

J. B. McLEES,
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